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SEQUENCE LISTING

<110> Schenk, Dale B.
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Vasquez, Nicki
Yednock, Ted

<120> Prevention and Treatment of Amyloidogenic Disease

<130> 15270J-004750UC

<140> US 09/580,015

<141> 2000-05-26

<150> US 09/322,289

<151> 1999-05-28

<150> US 09/201,430

<151> 1998-11-30

<150> WO PCT/US00/14810

<151> 1998-11-30

<150> US 60/080,970

<151> 1998-04-07

<150> US 60/067,740

<151> 1997-12-02

<160> 77

<170> PatentIn Ver. 2.1

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 from AN1792 sequence (human Abeta42, beta-amyloid
 peptide)

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<210> 2

<211> 10

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 from AN1792 sequence (human Abeta42, beta-amyloid
 peptide)

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Glu Ile Ser Glu Val Lys Met Asp Ala Glu
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<210> 3
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      from AN1792 sequence (human Abeta42, beta-amyloid
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Ile Ser Glu Val Lys Met Asp Ala Glu Phe
<210> 4
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<400> 4
Ser Glu Val Lys Met Asp Ala Glu Phe Arg
 <210> 5
 <211> 10
 <212> PRT
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 Glu Val Lys Met Asp Ala Glu Phe Arg His
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 <210> 6
 <211> 10
 <212> PRT
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 <220>
 <223> Description of Artificial Sequence:10-mer peptide
        from AN1792 sequence (human Abeta42, beta-amyloid
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peptide)

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<400> 6
Val Lys Met Asp Ala Glu Phe Arg His Asp
                  5
<210> 7
<211> 10
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<400> 7
Lys Met Asp Ala Glu Phe Arg His Asp Ser
<210> 8
<211> 10
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 <400> 8
 Met Asp Ala Glu Phe Arg His Asp Ser Gly
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 <210> 9
 <211> 10
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 Asp Ala Glu Phe Arg His Asp Ser Gly Tyr
                                       10
                   5
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Ala Glu Phe Arg His Asp Ser Gly Tyr Glu
<210> 11
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Glu Phe Arg His Asp Ser Gly Tyr Glu Val
<210> 12
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 Phe Arg His Asp Ser Gly Tyr Glu Val His
                   5
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 <212> PRT
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 <400> 13
 Arg His Asp Ser Gly Tyr Glu Val His His
                   5
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 <210> 14
 <211> 10
 <212> PRT
 <213> Artificial Sequence
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 <223> Description of Artificial Sequence:10-mer peptide
       from AN1792 sequence (human Abeta42, beta-amyloid
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peptide)

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<400> 14
His Asp Ser Gly Tyr Glu Val His His Gln
                  5
<210> 15
<211> 10
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<220>
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      peptide)
<400> 15
Asp Ser Gly Tyr Glu Val His His Gln Lys
 <210> 16
 <211> 10
 <212> PRT
 <213> Artificial Sequence
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       from AN1792 sequence (human Abeta42, beta-amyloid
       peptide)
 <400> 16
 Ser Gly Tyr Glu Val His His Gln Lys Leu
                   5
 <210> 17
 <211> 10
 <212> PRT
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 <220>
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       from AN1792 sequence (human Abeta42, beta-amyloid
       peptide)
 <400> 17
 Gly Tyr Glu Val His His Gln Lys Leu Val
                                       10
                    5
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  <210> 18
  <211> 10
  <212> PRT
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  <220>
  <223> Description of Artificial Sequence:10-mer peptide
        from AN1792 sequence (human Abeta42, beta-amyloid
        peptide)
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age when the same of the same

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<400> 18
Tyr Glu Val His His Gln Lys Leu Val Phe
                  5
<210> 19
<211> 10
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 19
Glu Val His His Gln Lys Leu Val Phe Phe
<210> 20
<211> 10
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<213> Artificial Sequence
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       peptide)
 <400> 20
 Val His His Gln Lys Leu Val Phe Phe Ala
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 <210> 21
 <211> 10
 <212> PRT
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       from AN1792 sequence (human Abeta42, beta-amyloid
       peptide)
 <400> 21
 His His Gln Lys Leu Val Phe Phe Ala Glu
                    5
   1
 <210> 22
 <211> 10
 <212> PRT
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 <220>
 <223> Description of Artificial Sequence:10-mer peptide
        from AN1792 sequence (human Abeta42, beta-amyloid
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peptide)

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<400> 22
His Gln Lys Leu Val Phe Phe Ala Glu Asp
<210> 23
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 23
Gln Lys Leu Val Phe Phe Ala Glu Asp Val
<210> 24
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
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      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 24
Lys Leu Val Phe Phe Ala Glu Asp Val Gly
                                       10
                   5
  1
 <210> 25
 <211> 10
 <212> PRT
 <213> Artificial Sequence
 <220>
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       from AN1792 sequence (human Abeta42, beta-amyloid
       peptide)
 Leu Val Phe Phe Ala Glu Asp Val Gly Ser
                   5
   1
 <210> 26
 <211> 10
 <212> PRT
 <213> Artificial Sequence
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 <223> Description of Artificial Sequence: 10-mer peptide
       from AN1792 sequence (human Abeta42, beta-amyloid
       peptide)
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<400> 26
Val Phe Phe Ala Glu Asp Val Gly Ser Asn
<210> 27
<211> 10
<212> PRT
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<220>
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 27
Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
<210> 28
<211> 10
<212> PRT
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      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
Phe Ala Glu Asp Val Gly Ser Asn Lys Gly
<210> 29
<211> 10
<212> PRT
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      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
Ala Glu Asp Val Gly Ser Asn Lys Gly Ala
                - 5
 <210> 30
 <211> 10
 <212> PRT
 <213> Artificial Sequence
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 <223> Description of Artificial Sequence:10-mer peptide
       from AN1792 sequence (human Abeta42, beta-amyloid
       peptide)
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and white

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<400> 30
Glu Asp Val Gly Ser Asn Lys Gly Ala Ile
<210> 31
<211> 10
<212> PRT
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<220>
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
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<400> 31
Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
 <210> 32
 <211> 10
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 <400> 32
 Val Gly Ser Asn Lys Gly Ala Ile Ile Gly
                    5
 <210> 33
  <211> 10
  <212> PRT
  <213> Artificial Sequence
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        from AN1792 sequence (human Abeta42, beta-amyloid
        peptide)
  <400> 33
  Gly Ser Asn Lys Gly Ala Ile Ile Gly Leu
    1
  <210> 34
  <211> 10
  <212> PRT
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  <220>
  <223> Description of Artificial Sequence:10-mer peptide
         from AN1792 sequence (human Abeta42, beta-amyloid
         peptide)
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Ser Asn Lys Gly Ala Ile Ile Gly Leu Met
<400> 34
  1
<210> 35
<211> 10
<212> PRT
<213> Artificial Sequence
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 Asn Lys Gly Ala Ile Ile Gly Leu Met Val
 <210> 36
 <211> 10
 <212> PRT
 <213> Artificial Sequence
  <223> Description of Artificia_ Sequence:10-mer peptide
        from AN1792 sequence (human Abeta42, beta-amyloid
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  <400> 36
  Lys Gly Ala Ile Ile Gly Leu Met Val Gly
                    5
  <210> 37
  <211> 10
   <212> PRT
   <213> Artificial Sequence
   <223> Description of Artificial Sequence:10-mer peptide
         from AN1792 sequence (human Abeta42, beta-amyloid
         peptide)
   <400> 37
   Gly Ala Ile Ile Gly Leu Met Val Gly Gly
     1
    <210> 38
    <211> 10
    <212> PRT
    <213> Artificial Sequence
    <223> Description of Artificial Sequence:10-mer peptide
          from AN1792 sequence (human Abeta42, beta-amyloid
          peptide)
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<400> 38
Ala Ile Ile Gly Leu Met Val Gly Gly Val
                  5
<210> 39
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:10-mer peptide
      from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
<400> 39
Ile Ile Gly Leu Met Val Gly Gly Val Val
<210> 4.0
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: 10-mer peptide
       from AN1792 sequence (human Abeta42, beta-amyloid
      peptide)
Ile Gly Leu Met Val Gly Gly Val Val Ile
                   5
<210> 41
<211> 10
<212> PRT
<213> Artificial Sequence
<220>
 <223> Description of Artificial Sequence:10-mer peptide
       from AN1792 sequence (human Abeta42, beta-amyloid
       peptide)
 <400> 41
 Gly Leu Met Val Gly Gly Val Val Ile Ala
 <210> 42
 <211> 42
 <212> PRT
 <213> Homo sapiens
 <223> human Abeta42 beta-amyloid peptide
 <400> 42
 Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val His His Gln Lys
                                       10
```

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Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys Gly Ala Ile Ile
Gly Leu Met Val Gly Gly Val Val Ile Ala
         35
<210> 43
<211> 13
<212> PRT
<213> Artificial Sequence
<220>
 <223> Description of Artificial Sequence:influenza
      hemagglutinin HA-307-319 universal T-cell epitope
 <400> 43
 Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr
                   5
 <210> 44
 <211> 13
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: PADRE universal
        T-cell epitope
  <220>
  <221> misc_feature
  <222> (3)
  <223> Xaa = Any amino acid
  <400> 44
  Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala
                                        10
                    5
  <210> 45
  <211> 16
  <212> PRT
  <213> Artificial Sequence
   <223> Description of Artificial Sequence:malaria CS, T3
         epitope universal T-cell epitope
   Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe Asn Val
                     5
     1
   <210> 46
   <211> 10
   <212> PRT
   <213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence:hepatitis B
      surface antigen HBsAg-19-28 universal T-cell
      epitope
<400> 46
Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile
<210> 47
<211> 19
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:heat shock
      protein 65 hsp65-153-171 universal T-cell epitope
<400> 47
Asp Gln Ser Ile Gly Asp Leu Ile Ala Glu Ala Met Asp Lys Val Gly
                                      10
Asn Glu Gly
<210> 48
<211> 14
<212> PRT
<213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence:bacille
       Calmette-Guerin universal T-cell epitope
 <400> 48
 Gln Val His Phe Gln Pro Leu Pro Pro Ala Val Val Lys Leu
 <210> 49
 <211> 15
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence:tetanus toxoid
       TT-830-844 universal T-cell epitope
 Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Leu
                                       10
                   5
 <210> 50
 <211> 21
 <212> PRT
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<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence:tetanus toxoid
      TT-947-967 universal T-cell epitope
Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
Ala Ser His Leu Glu
             20
<210> 51
<211> 16
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence:HIV gp120 T1
      universal T-cell epitope
<400> 51
Lys Gln Ile Ile Asn Met Trp Gln Glu Val Gly Lys Ala Met Tyr Ala
                                      10
<210> 52
<211> 22
<212> PRT
<213> Artificial Sequence
 <223> Description of Artificial Sequence: AN 90549 Abeta
       1-7/tetanus toxoid 830-844
 <400> 52
Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
                                       10
 Ile Gly Ile Thr Glu Leu
              20
 <210> 53
 <211> 28
 <212> PRT
<213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: AN 90550 Abeta
       1-7/tetanus toxoid 947-967
 Asp Ala Glu Phe Arg His Asp Phe Asn Asn Phe Thr Val Ser Phe Trp
 Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
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<210> 54
<211> 43
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: AN90542 Abeta
      1-7/tetanus toxoid 830-844 + 947-967
<400> 54
Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
Ile Gly Ile Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu
                                  25
Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
<210> 55
<211> 22
 <212> PRT
<213> Artificial Sequence
 <223> Description of Artificial Sequence: AN 90576 Abeta
       3-9/tetanus toxoid 830-844
 <400> 55
 Glu Phe Arg His Asp Ser Gly Gln Tyr Ile Lys Ala Asn Ser Lys Phe
                                       10
 Ile Gly Ile Thr Glu Leu
              20
 <210> 56
 <211> 20
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: AN90562 Abeta
       1-7/peptide
  <220>
  <221> misc_feature
  <222> (3)
  <223> Xaa = any amino acid
  <400> 56
  Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Asp Ala Glu
                                        10
                    5
  Phe Arg His Asp
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<210> 57
<211> 34
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: AN90543 Abeta
      1-7 \times 3/peptide
<220>
<221> misc_feature
<222> (24)
<223> Xaa = any amino acid
<400> 57
Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala
  1
Glu Phe Arg His Asp Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala
Ala Ala
<210> 58
<211> 34
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence: fusion protein
      with Abeta epitope
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 <221> misc_feature
 <222> (3)
 <223> Xaa = any amino acid
 <400> 58
Ala Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Ala Asp Ala Glu
 Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg
 His Asp
 <210> 59
 <211> 20
 <212> PRT
 <213> Artificial Sequence
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 <223> Description of Artificial Sequence: fusion protein
       with Abeta epitope
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<220>
<221> misc_feature
<222> (10)
<223> Xaa = any amino acid
<400> 59
Asp Ala Glu Phe Arg His Asp Ala Lys Xaa Val Ala Ala Trp Thr Leu
                  5
Lys Ala Ala Ala
             20
<210> 60
<211> 24
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: fusion protein
      with Abeta epitope
<400> 60
Asp Ala Glu Phe Arg His Asp Ile Ser Gln Ala Val His Ala Ala His
Ala Glu Ile Asn Glu Ala Gly Arg
              20
 <210> 61
 <211> 24
 <212> PRT
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 <223> Description of Artificial Sequence: fusion protein
       with Abeta epitope
 <400> 61
 Phe Arg His Asp Ser Gly Tyr Ile Ser Gln Ala Val His Ala Ala His
                    5
 Ala Glu Ile Asn Glu Ala Gly Arg
               20
 <210> 62
 <211> 24
 <212> PRT
 <213> Artificial Sequence
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  <223> Description of Artificial Sequence: fusion protein
        with Abeta epitope
  <400> 62
  Glu Phe Arg His Asp Ser Gly Ile Ser Gln Ala Val His Ala Ala His
                    5
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Ala Glu Ile Asn Glu Ala Gly Arg
             20
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<210> 63

<211> 34

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: fusion protein with Abeta epitope

<400> 63

Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr Asp Ala Glu

Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg 25 20

His Asp

<210> 64

<211> 27

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: fusion protein with Abeta epitope

<400> 64

Asp Ala Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu 10

Lys Leu Ala Thr Asp Ala Glu Phe Arg His Asp

<210> 65

<211> 34

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: fusion protein with Abeta epitope

Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala

Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu

Ala Thr

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<210> 66
<211> 27
<212> PRT
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: fusion protein
      with Abeta epitope
<400> 66
Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Pro Lys
                  5
Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala Thr
<210> 67
<211> 79
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: fusion protein
      with Abeta epitope
<400> 67
Asp Ala Glu Phe Arg His Asp Pro Lys Tyr Val Lys Gln Asn Thr Leu
Lys Leu Ala Thr Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser
                                   25
Val Phe Asn Val Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile
                                                 <sub>4</sub> 45
 Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro
 Lys Val Ser Ala Ser His Leu Glu Asp Ala Glu Phe Arg His Asp
 <210> 68
 <211> 57
 <212> PRT
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 <223> Description of Artificial Sequence: fusion protein
       with Abeta epitope
 <400> 68
 Asp Ala Glu Phe Arg His Asp Asp Ala Glu Phe Arg His Asp Asp Ala
                                       10
 Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly
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Ile Thr Glu Leu Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val

40

45

20

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Pro Lys Val Ser Ala Ser His Leu Glu
<210> 69
<211> 44
<212> PRT
<213> Artificial Sequence
<223> Description of Artificial Sequence: fusion protein
      with Abeta epitope
<400> 69
Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
Ile Gly Ile Thr Glu Leu Cys Phe Asn Asn Phe Thr Val Ser Phe Trp
                                  25
Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu
         35
<210> 70
<211> 51
<212> PRT
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<223> Description of Artificial Sequence: fusion protein
       with Abeta epitope
 <400> 70
Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
  1
 Ile Gly Ile Thr Glu Leu Cys Phe Asn Asn Phe Thr Val Ser Phe Trp
 Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu Asp Ala Glu Phe
                                                   45
 Arg His Asp
      50
 <210> 71
 <211> 26
 <212> PRT
 <213> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence:synuclein
       fusion protein
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 Glu Gln Val Thr Asn Val Gly Gly Ala Ile Ser Gln Ala Val His Ala
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Ala His Ala Glu Ile Asn Glu Ala Gly Arg 20 25

<210> 72 <211> 13 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Abeta 1-12 peptide with inserted Cys residue <400> 72 Asp Ala Glu Phe Arg His Asp Ser Gly Tyr Glu Val Cys 10 5 <210> 73 <211> 6 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: Abeta 1-5 peptide with inserted Cys residue <400> 73 Asp Ala Glu Phe Arg Cys 1 <210> 74 <211> 12 <212> PRT <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Abeta 33-42 peptide with inserted Cys residue <220> <221> MOD_RES <222> (2) <223> Xaa = amino-heptanoic acid <400> 74 Cys Xaa Gly Leu Met Val Gly Gly Val Val Ile Ala <210> 75 <211> 19 <212> PRT <213> Artificial Sequence <223> Description of Artificial Sequence: Abeta 13-28 peptide with two Gly residues added and inserted

Cys residue

and and

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<220>
<221> MOD_RES
<222> (1)
<223> Xaa = N-acetyl His
<400> 75
Xaa His Gln Lys Leu Val Phe Phe Ala Glu Asp Val Gly Ser Asn Lys
Gly Gly Cys
<210> 76
<211> 4
<212> PRT
<213> Artificial Sequence
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<223> Description of Artificial Sequence:linker
 <400> 76
Glu Gly Glu Gly
  1 ·
 <210> 77
 <211> 22
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: fusion protein with Abeta epitope
 <400> 77
 Asp Ala Glu Phe Arg His Asp Gln Tyr Ile Lys Ala Asn Ser Lys Phe
                                                            15
 Ile Gly Ile Thr Glu Leu
               20
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